

Amendments to the Claims: This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

Claims 1-6 (Cancelled)

7. (Currently Amended) A wear-resistant titanium alloy orthopedic device, wherein said device has a core hardness of at least 28 HRC and a hardened outer region, having at least two layers including a TiO₂-TiO layer and an oxygen-rich layer, which provides substantially increased near surface hardness at least 0.0005 inches beneath a surface of the device.

8. (Original) The device according to claim 7, wherein said near surface hardness is at least 50 HRC.

9. (Original) The device according to claim 7, wherein said near surface hardness is increased at least 0.0065 inches beneath the surface.

10. (Original) The device according to claim 7, wherein said device decreases in hardness from the surface to the core.

11. (Original) The device according to claim 7, wherein said titanium alloy is formed of titanium and a metal selected from the group consisting essentially of niobium, tin, zirconium, chromium, aluminum, molybdenum, vanadium, tantalum, silicon, and iron.

12. (Original) The device according to claim 11, wherein said titanium alloy is selected from the group consisting essentially of Ti-6Al-4V, Ti-13Nb-13Zr, Ti-12Mo-6Zr-2Fe, Ti-5Al-2.5Fe, Ti-3Al-2.5V, Ti-3Al-8V-6Cr-4Mo-4Zr, Ti-15Mo-3Al-2.7Nb-0.25Si, Ti-15Mo-2.8Nb-0.2Si, Ti-6Al-4V ELI, Ti-6Al-7Nb, Ti-35Nb-7Zr-5Ta, Ti-45Nb, Ti-8V-5Fe-1 Al, Ti-15Mo-5Zr, Ti-11.5Mo-6Zr-4.5Sn, Ti-5Al-2Sn-4Zr-4Mo-2Cr-1 Fe, and Ti-15Mo.

13. (Original) The device according to claim 7, wherein said orthopedic device is selected from the group consisting essentially of orthopedic implants, inner ear implants, dental implants and cardiovascular implants.

14. (Original) The device according to claim 13, wherein said orthopedic implants are selected from the group consisting essentially of spinal implants, hip implants, knee implants, shoulder, elbow, finger, toe, other joint implants, bone plates, fixation screws, intramedullary nails, compression hip screws, pelvic plates, and other orthopedic implants.

Claims 15-34 (Cancelled)